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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,398	08/31/2006	Giuseppe Lo Biundo	Q89568	8985

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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT	PAPER NUMBER
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3746

NOTIFICATION DATE	DELIVERY MODE
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12/16/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,398	LO BIUNDO ET AL.	
	Examiner	Art Unit	
	LEONARD J. WEINSTEIN	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment of October 8, 2010. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

2. The examiner acknowledges the amendments to claims 1, 8, 10, and 11.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 2, 4-6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitefield US 5,282,446 ("Whitefield") in view of Schneider US 6,345,600 (Schneider) as evidenced by Garza US 5,535,643 ("Garza"), further in view of Sato US 5,941,203.

a. With respect to **claim 1 and claim 8**

i. **Whitefield –**

Whitefield teaches all the limitations for an oil and vacuum pump group including:

[claim 1]

a monolithic motion transmission shaft 15 extending along a main axis X-X (longitudinal axis of the water pump 11, oil pump 10, and vane pump 40 in the embodiment of figure 2; “pump axis”), at least one oil pump 10 mounted on said monolithic motion transmission shaft 15 coaxially to said main axis X-X (pump axis), at least one vacuum pump 40 mounted on said single motion transmission shaft 15 coaxially to said main axis X-X (pump axis), a rotating transmission component 42 on said monolithic motion transmission shaft 15 coaxially said main axis X-X (pump axis) and adapted to derive a rotary motion from an engine (not shown, see Whitefield – Abstract) and to transfer said rotary motion to said monolithic motion transmission shaft 15 to drive said at least one oil pump 10 and said at least one vacuum pump 40, wherein the oil and vacuum pump group (10 and 40) is structurally independent from and adapted to be associated with said engine (col. 2 ll. 16-19).

Whitefield teaches all the limitations as claimed for a method for assembling an oil and vacuum pump group for an engine (not shown; col. 2 ll. 16-19) including the steps of:

[claim 8]

Providing a monolithic motion transmission shaft 15 extending along a main axis X-X (pump axis),
providing at least one oil pump 10,
providing at least one vacuum pump 40,
providing a rotating transmission component 42 so as to define a group which is structurally independent from and adapted to be associated with said engine (not shown).

ii. **Schneider as evidenced by the instant application and Garza –**

Whitefield does not teach the limitations for that are taught by Schneider for an oil and vacuum pump group (Schneider – Fig. 1) where an oil pump 18 and a vacuum pump 20 are provided on a monolithic transmission shaft 26 including: a gear (sprocket 22) adapted to derive rotary motion from an engine and transfer it to a monolithic shaft (Schneider – col. 2 ll. 10-13).

The sprocket 22 of Schneider meets the limitations of a gear as provided in the instant application which discloses that element 40 is “[a] gear 40, specifically a sprocket” App. at pg. 9, ll. 4. The disclosure and figure 2 of Garza teach that a driven sprocket 28, analogous to the sprocket of Schneider, are typically used in conjunction with a chain 26 that connects to a driving sprocket 28 which is driven by an engine 10. Garza, col. 2 ll. 45-8. Thus Schneider as applied to Whitefield would provide a gear that adapted to derive rotary motion from a driving hear if it

were connected by a chain to a gear connected to the end of an engine shaft. Whitefield, Schneider, and Garza all teach rotary components driven by an internal combustion engine through a linkage of either a pulley or chain and sprocket.

iii. **Motivation for Combination Provided by Sato –**

Where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). *Ex Parte Smith*, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (*citing KSR v. Teleflex*, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)). A claim for a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). *Ex Parte Smith*, 83 USPQ.2d at 1518-19 (BPAI, 2007) (*citing KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396).

Sato teaches it was known in the art at the time of the invention for chain and sprockets arrangements to be interchanged with belt and pulley assemblies for driving rotating components using the motion of a rotating shaft of an internal combustion engine to which the rotating components

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were not directly connected. Sato, col. 6 ll. 48-54. A belt and pulley arrangement functions in a nearly identical manner to a sprocket and chain arrangement. In the modification the driving pulley would be replaced by a driving sprocket. Instead of placing a belt around the driving sprocket a chain would be provided. Finally the chain would then be placed around the driven sprocket (the chain may be unlinked and upon placement around the driven sprocket its ends are linked together) just as the belt had been provided around the driven pulley connected to the rotating equipment. The driven sprocket would be driven to rotate with the rotation of the driving sprocket transmitted to the driven sprocket through the chain just as the belt had transmitted the rotary motion of the driving pulley to the driven pulley. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a vacuum and oil pump group driven by a belt and pulley arrangement, as taught by Whitefield, with a sprocket and chain arrangement, as taught by Schneider, because the sprocket and chain would transmit the motion of the engine in the same way as the belt and pulley.

Accordingly, since the applicant[s] have submitted no persuasive evidence that the combination of the above elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a) because it is no more than the predictable use of prior art elements according to their

established functions resulting in the simple substitution of one known element for another.

- b. With respect to claims 2, 4-6, and 9 Whitefield teaches the limitations including:

[claim 2]

wherein said at least one oil pump 10 and said at least one vacuum pump 40 are units which are structurally independent from each other (col. 3 ll. 54-60);

[claim 4]

wherein said at least one oil pump 10 is a single-stage or two-stage pump;

[claim 5]

comprising means (body of 12; col. 3 ll. 26-30; 50-62) for the attachment to an engine block (not shown);

[claim 6]

wherein said means (body of 12 and element 15; col. 3 ll. 26-30; 60-62) for the attachment to an engine block (not shown) comprises a plurality of brackets 50 intended to cooperate with respective brackets (brackets that receive element 50; col. 3 ll. 26-30) formed on said engine block (not shown);

[claim 9]

and an engine (col. 2 ll. 16-20), comprising an oil 10 and vacuum 40 pumps group according to claim 1.

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6. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitefield, Schneider, Garza, and Sato as applied to claims 1 and 8 above, further in view of Hayam et al. US 6,602,557 ("Hayman"). A combination of the references teaches the limitations as discussed but does not the limitations taught by Hayman for an oil pump (40, 44) driven through a gear 48 by an internal combustion engine 10 where a gear is disposed between an oil pump (44 of 40 and 44) and a secondary pump (as provided by vanes 58). A modification to Whitefield, previously modified to have a sprocket as taught by Schneider, so that the sprocket was place between the oil pump 10 and the vacuum pump 40 would not alter the operation of either pump. Both pumps would still rotate by the motion transmitted to the sprocket by the chain from the driving sprocket connected to an internal combustion engine. The examiner notes that if the pulley 42 of Whitefield were place between the pumps the rotating equipment would function as they did before as well. The modification would amount to a rearrangement of parts with no resulting change in function of the vacuum, oil, or water pump of Whitefield. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a sprocket between a vacuum pump and an oil pump in order to provide a pump group driven by an internal combustion engine. It has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 2, 4-6, and 8-11 have been considered but are moot in view of the new ground(s) of rejection. The examiner notes

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that the portion of the constructive single shaft of Whitefield connected to and carrying both an oil pump 10 and a vacuum pump 40 is a monolithic shaft element.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Leonard J Weinstein/

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